



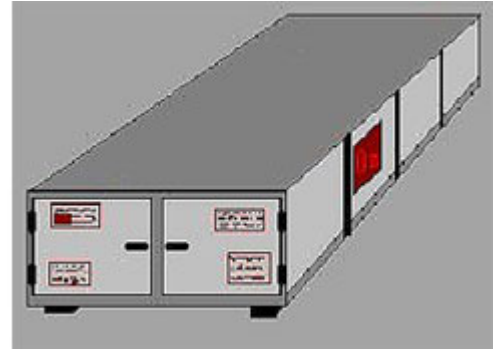
## MSHA's Accident Prevention Program Miner's Tip



### Understanding the Basics of a Refuge Alternative

Refuge chambers or shelters are now a part of the mine's emergency response plan. There are four basic aspects of a Refuge Alternative.

- (1) Structural - this refers to the protective structure that houses the internal atmosphere.
- (2) Breathable Air - uncontaminated air from oxygen or compressed air cylinders, compressed air lines, or boreholes with fans or compressors. There are specified flow rates for oxygen / air which must be provided to assure adequate breathable air is available for all miners in the unit for 96 hours.
- (3) Air Monitoring - miners must be provided with the ability to measure carbon monoxide, carbon dioxide, oxygen, and methane inside and outside of the structure from within the structure.
- (4) Harmful Gas Removal - chemical scrubbing material or purging or other procedures are necessary to remove harmful gases such as CO<sub>2</sub> (from exhaled breath), CO (mine fire gas), or CH<sub>4</sub>.



Your knowledge of how to examine, transport, maintain, deploy and use these units can save your life. It is imperative that you know how to deploy and operate these units should an emergency arise and you are not able to escape from the mine, therefore miners should receive comprehensive training for all aspects of refuge alternatives. There are requirements for quarterly training on detailed procedures and annual expectations training found in the 30 CFR [75.1504\(b\)](#).

The final rule can be found using [this link](#).

Issued:	08/26/2009
Tag #	AP2008-97138